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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Alejandro Chio ARJONA et al.

Serial No.09/750,483

Filed: December 22, 2000



BOX NON-FEE AMENDMENT

Group Art Unit: Unassigned

Examiner: Unassigned

Title: PROCESS TO OBTAIN
POLYGLYCOLYLUREA FROM
AROMATIC DIGLYCINATES FOR
ELECTRIC CONDUCTOR INSULATION

PRELIMINARY AMENDMENT UNDER 37 C.F.R. §§ 1.111 AND 1.115

Assistant Commissioner of Patents
Washington, D.C. 20231

Sir:

Prior to examination thereof, please amend the above identified application as follows:

IN THE SPECIFICATION:

Page 1, line 13, change "consists in" to ---comprising---

line 13, change "aryl" to ---aryl---

line 17, change "consist" to ---comprise---

line 20, change "occurring" to ---producing---

Page 2, line 8, change "alfa" to ---alpha---

line 9, after "in", insert ---the---

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line 19, change "The applicant has developed" to --- The present invention is directed to---.

line 19, after urea", insert ---(PGU)---.

line 21, change "emission, obtaining " to ---emission. Another aspect of the invention is directed to---.

line 22, change "The process object" to ---Another aspect---.

line 22, change "also characterized because it" to ---is directed to a process which---.

line 23, change "mechanic" to ---mechanical---.

last line, change "lowering thus" to ---thus lowering---.

Page 6, line 25, change "catalizer" to ---catalyst---.

Page 7, line 13, change "catalizer" to ---catalyst---.

IN THE CLAIMS:

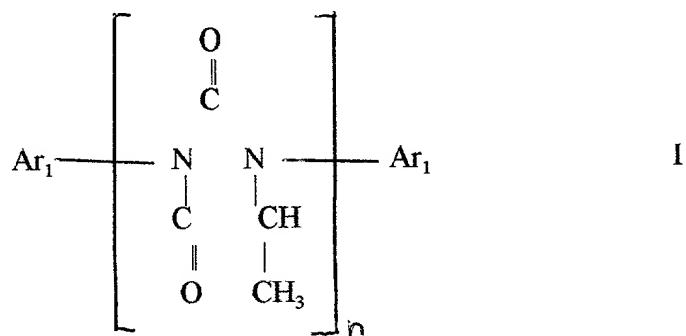
Please amend the following claims:

Cancel claims 1-5.

Add the following claims:

6. A process for obtaining polyglycolyl urea from aromatic diglycinates for insulating electric conductor, in the absence of HCN polluting residues, comprising the following steps:
 - a) reacting a mixture of methylhaloester and diamine in a C₁-C₄ aliphatic solvent under reflux conditions at atmospheric pressure and up to solvent reflux temperature;

- b) adding a catalyst to the reaction mixture to obtain diglycinate in solution;
- c) separating the solvent through atmospheric distillation;
- d) crystallizing the diglycinate;
- e) filtering and purifying the diglycinate by washing with water;
- f) drying the methyl diglycinate obtained;
- g) reacting the obtained diglycinate with cresylic acid in a reactor until solution is complete;
- h) stirring the diglycinate with aromatic isocyanate, solvent and catalyst;
- i) distilling and then cooling the reaction product; and
- j) recovering the polyglycolyl urea hydantoin resin having the formula I:



where Ar₁ is a substituted aromatic compound or a substituted diphenylalkyl and 2< n <500

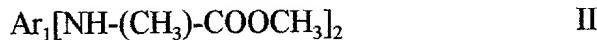
7. The process according to claim 6 wherein the methylhaloester is selected from the group consisting of methylbromopropionate and methylchloropropionate.
8. The process according to claim 6 wherein the diamine is methylenedianiline.
9. The process according to claim 6 wherein the mixture reflux is conducted for 16 hours.

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10. The process according to claim 6 wherein the catalyst is triethylamine.
11. The process according to claim 10 wherein the triethylamine is added at a rate of 0.178 l/hr per Kg of product during a 3-5 hour period.
12. The process according to claim 6 wherein the aromatic isocyanate is methylene diisocyanate.
13. The process according to claim 6 wherein the diglycinate is crystallized at 50°C.
14. The process according to claim 6 wherein the stirring with methylene diisocyanate is at a temperature of 60°C.
15. The process according to claim 6 wherein the catalyst is added at a temperature of up to 180°C.
16. The process according to claim 6 wherein the distilling is conducted at a temperature of 200°C.
17. The process according to claim 6 wherein the cooling is conducted at 70°C.
18. The process according to claim 6 wherein the product has a viscosity of 44 to 47 seconds at 25°C.
19. The process according to claim 6 wherein the catalyst in step (h) is selected from the group consisting of triethylenediamino and 1,4 diazobicyclo (2,2,2) octane.
20. The process according to claim 6 wherein the polyglycolyl urea hydantoin obtained

has viscosity (Cp) of 4,800 at 15% solids.

21. The process according to claim 6, wherein the the C₁-C₄ aliphatic solvent is methanol.
22. The process according to claim 6, wherein the reflux temperature of the C₁-C₄ aliphatic solvent is 58 - 63°C.
23. The process according to claim 6, wherein the methyl methyl diglycinate obtained is dried with hot air at 40°C and corresponds to a stereoisomer mixture with a melting point of 95-116°C, of the following formula II:



24. The process according to claim 6, wherein the residues of the mother waters are by-products of the reaction of triethylamine bromohydrate salts which are neutralized with sodium hydroxide and separated through secondary distillation obtaining sodium bromide in solution and 90% triethylamine.
25. Abrasion resistant and flexible coating for insulating electric conductor made from polyglycolyl urea hydantoin according to claim 6.

REMARKS

Claims 1-5 have been cancelled. No new matter has been incorporated by these amendments. Upon entry of the amendments, Claims 6-25 remain in the present application.

In view of the above remarks, it is respectfully submitted that the claims are in condition for examination. In the event that there are any problems which can be expedited by telephone

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conference, the Examiner is invited to telephone the Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,



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